

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/011657 A2

(51) International Patent Classification⁷: **A61K 31/00** TU, Chl [US/US]; 5269 Quaker Hill Lane, San Diego, California 92130 (US).

(21) International Application Number:

PCT/US2004/024658

(74) Agents: ROTH, Carol, J. et al.; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, Washington 98104-7092 (US).

(22) International Filing Date: 29 July 2004 (29.07.2004)

(25) Filing Language:

English

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language:

English

(30) Priority Data:
60/491,095 30 July 2003 (30.07.2003) US

(71) Applicant (*for all designated States except US*): XENON PHARMACEUTICALS INC. [CA/CA]; 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): SVIRIDOV, Serguel [CA/CA]; 1904-5885 Olive Avenue, Burnaby, British Columbia V5H 4N8 (CA). KODUMURU, Vishnумurthy [CA/CA]; 211-6577 Royal Oak Avenue, Burnaby, British Columbia V5H 3P3 (CA). LIU, Shifeng [CA/CA]; 15-2615 Fortress Drive, Port Coquitlam, British Columbia V3C 6E8 (CA). ABREO, Melwyn [US/US]; 3373 Armagosa Way, Jamul, California 91932 (US). WINTHER, Michael D. [CA/CA]; 1935 West 4th Avenue, Vancouver, British Columbia V6J 2K1 (CA). GSCHWEND, Heinz W. [US/US]; 161 Meadowcroft Way, Santa Rosa, California 95403 (US). KAMBOJ, Rajender [CA/CA]; 5809 Sperling Avenue, Burnaby, British Columbia V5B 2T6 (CA). SUN, Shaoyi [CA/CA]; #407-1029 East Broadway, Vancouver, British Columbia V5T 1Y8 (CA). HOLLADAY, Mark, W. [US/US]; 11371 Woodcraft Way, San Diego, California 92131 (US). LI, Wenbao [CN/US]; 11674 Castile Way, San Diego, California 92128 (US).

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

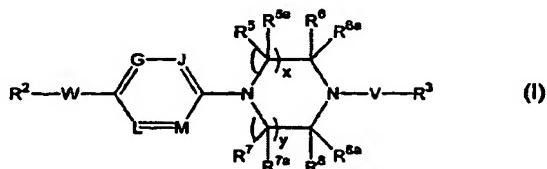
— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PIPERAZINE DERIVATIVES AND THEIR USE AS THERAPEUTIC AGENTS



(57) Abstract: Methods of treating an SCD-mediated disease or condition in a mammal, preferably a human, are disclosed, wherein the methods comprise administering to a mammal in need thereof a compound of formula (I): where G, J, L, M, x, y, W, V, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R_{8a}, R₉, R_{9a}, R₁₀, R_{10a}, R₁₁ and R_{11a} are defined herein. Pharmaceutical compositions comprising the compounds of formula (I) are also disclosed.